

Attorney's Docket No.: 42390.P5444

Patent

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

STEVEN R. ESKILDSEN et al.

Application No. 09/103,110

Filing Date: 6/23/98

For: IC PACKAGE WITH EDGE CONNECT
CONTACTS

Examiner: Dinh, T.

Art Unit: 2835



5/A

5-21-00

T. Flowers

Assistant Commissioner for Patents
Washington, D.C. 20231

AMENDMENT

Sir:

In response to the Office Action mailed February 17, 2000, applicants respectfully request that the above-identified application be amended as follows.

FIRST CLASS CERTIFICATE OF MAILING

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IN THE CLAIMS

Please amend claims 1 and 7-14. All claims have been provided as a courtesy to the Examiner.

Sub B2

1. (Amended) An integrated circuit (IC) card [for use in a data processing device], comprising:
- 2 an IC package having multiple leads extending away from said IC package
- 3 such that a portion of said multiple leads is not in contact with said IC package; and
- 4 a casing that encases said package, such that when said casing is inserted
- 5 into [said] a data processing device, said leads provide an electrical interface
- 6 between said IC package and said data processing device without [the] use of a
- 7 printed circuit board and a connector.

- 1 2. (Unchanged) The IC card of claim 1 wherein said casing has a front
- 2 surface having a front opening, such that when said IC package is inserted into said
- 3 casing, said IC package and said data processing device form said electrical
- 4 interface through said front opening.

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- 1 3. (Unchanged) The IC card of claim 2 wherein said casing has a back
- 2 surface having a back opening such that said IC package is inserted into said casing
- 3 through said back opening.

1 4. (Unchanged) The IC card of claim 3 wherein said casing has at least
2 one stop at said back opening such that when said IC package is fully inserted into
3 said casing, said stop holds said package securely within said casing.

1 5. (Unchanged) The IC card of claim 2 wherein said casing has a bottom
2 surface having a bottom opening such that said IC package is inserted into said
3 casing through said bottom opening.

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1 6. (Unchanged) The IC card of claim 5 wherein said casing has at least
2 one stop at said bottom opening such that when said IC package is fully inserted into
3 said casing, said stop holds said package securely within said casing.

Sub-B4
1 7. (Amended) A method of assembling an integrated circuit (IC) card [for
2 use in a data processing device], said method comprising [the steps of]:
3 providing an IC package, said package having multiple leads extending away
4 from said IC package such that a portion of said multiple leads is not in contact with
5 said IC package;
6 providing a casing; and[,]
7 inserting said IC package into said casing, such that when said casing is
8 inserted into [said] a data processing device said multiple leads provide an electrical
9 interface between said IC package and said data processing device without [the] use
10 of a printed circuit board and a connector.

1 8. (Amended) The method of claim 7 wherein [said step of] providing a
2 casing includes providing a casing having a front surface with a front opening, such
3 that when said IC package is inserted into said casing, said IC package and said
4 data processing device form said electrical interface through said front opening.

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1 9. (Amended) The method of claim 8 wherein [said step of] providing a
2 casing includes providing a casing having a back surface with a back opening, and
3 said [step of] inserting said IC package includes inserting said IC package through
4 said back opening of said casing.

1 10. (Amended) The method of claim 9 wherein [where said step of]
2 providing a casing includes providing a casing having at least one stop on said back
3 opening such that when said IC package is fully inserted into said casing through
4 said back opening, said stop holds said IC package securely within said casing

1 11. (Amended) The method of claim 8 wherein [said step of] providing a
2 casing includes providing a casing having a bottom surface with a bottom opening,
3 and [said step of] inserting said IC package includes inserting said IC package
4 through said bottom opening of said casing.

1 12. (Amended) The method of claim 11 wherein [said step of] providing a
2 casing includes providing a casing having at least one stop at said bottom opening

3 such that when said IC package is fully inserted into said casing through said bottom
4 opening, said stop holds said IC package securely within said casing.

13. (Amended) A method of connecting an integrated circuit (IC) to a
receptacle of a data processing device, comprising [the step of]:

3 providing an IC package having multiple leads extending away from said
4 package such that a portion of said multiple leads is not in contact with said IC package;

5 and[.]

6 inserting said IC package into said data processing device such that said multiple
7 leads from said IC package provide the electrical interface between said IC package
8 and said data processing device without the use of a printed circuit board or a
9 connector.

14. (Amended) The method of claim 13 wherein [said step of] providing an IC
2 package includes providing an IC package having a blade on pad socket device.

REMARKS

Reconsideration of this application, as amended, is respectfully requested.

Claims 1-14 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-4, 7-10, and 13-14 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,476,387 to Ramey et al. ("Ramey").

Claims 5-6 and 11-12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ramey in view of U.S. Patent No. 5,735,040 to Ochi et al. ("Ochi").

Claims 1 and 7-14 have been amended. Applicants respectfully submit that no new matter has been introduced by the amendments made herein.

The Examiner has rejected claims 1-14 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner states:

Because the data processing device is a function and not an element or any structure in the claim, suggest change "**IC card for use data processing device**" to IC card including a processing device.

(p.2 Office Action 2/17/00).

Applicants submit that the amended claims satisfy 35 U.S.C. § 112, second paragraph. Therefore, applicants respectfully request the Examiner to withdraw this rejection.

The Examiner has rejected claims 1-4, 7-10, and 13-14 under 35 U.S.C. §

102(b) as being anticipated by Ramey. In particular, the Examiner states:

As to claims 1, 7, and 13-14, Ramey discloses an IC card and a method as shown in figures 1-8 comprising an IC package (16) having multiple leads (shown in figure 1) and a casing (10, 11) (column 2, lines 40-45).

(p.2 Office Action 2/17/00).

Applicants respectfully submit that claim 1, as amended, is not anticipated under 35 U.S.C. § 102(b) by Ramey. Claim 1 includes the limitations of:

An integrated circuit (IC) card, comprising:
an IC package having multiple leads extending away from said IC package such that a portion of said multiple leads is not in contact with said IC package; and
a casing that encases said package, such that when said casing is inserted into a data processing device, said leads provide an electrical interface between said IC package and said data processing device without use of a printed circuit board and a connector.

(Claim 1)(emphasis added).

Ramey discloses a memory card. In particular, Ramey discloses:

Turning to FIG. 1, top cover 10 and bottom cover 11 are assembled together on frame 15 which holds printed circuit board 16 on supports 12. The covers 10, 11 in a preferred embodiment are constructed of any metallic material such as stainless steel and are drawn in order to provide rigidity and strength in the construction of the covers. In the preferred embodiment, the covers 10, 11 are stepped having a protruding center region which provides further rigidity of the covers. The frame 15 in a preferred embodiment is constructed of any plastic material such as polycarbonate or any thermal plastic. The top cover 10 is secured to the frame 15 by snap tabs 18 which are inserted into snap grooves 19. The snap tabs 18 are located on each side of the top cover 10 and in the preferred embodiment there are three snap tabs 18 on each side of each top cover 10. The snap grooves 19 are correspondingly located to the snap tabs 18 and are likewise

located on both sides of the frame 15 having in the preferred embodiment three snap grooves on each side of the frame 15, providing a total of six (6) snap tabs 18 and corresponding snap grooves 19.

(Ramey Col.2, lines 41-60).

In contrast to claim 1, Ramey does not disclose an IC package having multiple leads extending away from said IC package such that a portion of said multiple leads is not in contact with said IC package.

Ramey discloses a printed circuit board 16 having leads formed entirely on circuit board 16. Thus, Ramey does not teach an IC package having multiple leads extending away from said IC package such that a portion of said multiple leads is not in contact with said IC package.

Accordingly, claim 1 is patentable over Ramey for the above reasons. Given that claims 2-6 depend directly or indirectly on claim 1, applicants respectfully submit that claims 2-6 are patentable over Ramey for the same reasons as claim 1.

Applicants respectfully submit that claim 7, as amended, is not anticipated under 35 U.S.C. § 102(b) by Ramey. Claim 7 includes the limitations of:

A method of assembling an integrated circuit (IC) card, said method comprising:
providing an IC package, said package having multiple leads extending away from said IC package such that a portion of said multiple leads is not in contact with said IC package;
providing a casing; and
inserting said IC package into said casing, such that when said casing is inserted into a data processing device said multiple leads provide an electrical interface between said IC package and

said data processing device without use of a printed circuit board and a connector.

(Claim 7)(emphasis added).

In contrast to claim 7, Ramey does not disclose a method of assembling an integrated circuit (IC) card that provides an IC package, and the IC package having multiple leads extending away from said IC package such that a portion of said multiple leads is not in contact with said IC package.

Therefore, claim 7 is not anticipated by Ramey for the above reasons. Accordingly, claim 7 is patentable over Ramey. Given that claims 8-12 depend directly or indirectly on claim 7, applicants submit that claims 8-12 are patentable over Ramey for the same reasons as claim 7.

Applicants respectfully submit that claim 13, as amended, is not anticipated under 35 U.S.C. § 102(b) by Ramey. Claim 13 includes the limitations of:

A method of connecting an integrated circuit (IC) to a receptacle of a data processing device, comprising:
providing an IC package having multiple leads extending away from said package such that a portion of said multiple leads is not in contact with said IC package; and
inserting said IC package into said data processing device such that said multiple leads from said IC package provide the electrical interface between said IC package and said data processing device without the use of a printed circuit board or a connector.

(Claim 13)(emphasis added).

In contrast to claim 13, Ramey does not disclose a method of connected an integrated circuit (IC) to a receptacle of a data processing device that provides

an IC package, and the IC package having multiple leads extending away from said package such that a portion of said multiple leads is not in contact with said IC package.

Therefore, claim 13 is not anticipated by Ramey for the above reasons. Accordingly, claim 13 is patentable over Ramey. Given that claim 14 is dependent on claim 13, applicants respectfully submit that claim 14 is patentable over Ramey for the same reasons as claim 13.

The Examiner has rejected claims 5-6 and 11-12 under 35 U.S.C. § 103(a) as being unpatentable over Ramey in view of Ochi. In particular, the Examiner states:

As to claims 5-6 and 11-12, Ramey discloses an IC card and method and satisfies all of the limitation of the claims, except for the IC card wherein the casing having the bottom surface that has a bottom opening, and the casing has at least one stop at the bottom opening. Ochi shows the IC card (10) having the casing that has the bottom surface including the opening (2a), the casing has at least one stop (20) (column 3, line 65-67, column 4, lines 1-4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the IC card assembly of Ramey and provide the casing of the IC card that has bottom surface including an opening and stop to hold the IC package as taught by Ochi.

(p.3 Office Action 2/17/00).

Applicants respectfully submit that claims 1 and 7, as amended, are not obvious under 35 U.S.C. § 103(a) over Ramey in view of Ochi.

As stated previously, Ramey discloses a printed circuit board 16 having leads formed entirely on circuit board 16. Thus, Ramey does not teach an IC or providing an IC package having multiple leads extending away from said IC

package such that a portion of said multiple leads is not in contact with said IC package.

Ochi discloses a method of making an IC card. In particular, Ochi discloses:

FIGS. 1 and 2 are schematic diagrams showing a thin IC card according to an embodiment of this invention. FIG. 1 is a plan view of the IC card, and FIG. 2 is an enlarged sectional view taken along the line 2-2 of FIG. 1. The components which are the same as or equivalent to those of the conventional examples are referred to by the same reference numerals, and a description of such components will be omitted. The IC card 10 has obverse and reverse main surfaces. Mounted at one of these main surfaces (hereinafter "the mounting surface") on the circuit board 2 are an IC package 3, which serves as the functional part, and another part 5, with a circuit pattern 2b being formed at least at the mounting surface on the circuit board 2. When a circuit pattern is also formed on that circuit board 2 where no IC package is mounted (hereinafter "the reverse surface"), the circuit patterns on the obverse and reverse surfaces are connected to each other through through-holes (not shown) or the like. Further, the circuit board 2 has a through-hole portion 2a formed in correspondence with the configuration of the battery 4. This through-hole portion is a peripheral edge (the inlet) of a lodging section 8 for receiving the battery 4. Formed on a part of the periphery of the through-hole portion 2a are a pair of electrodes 20 for battery connection.

(Ochi Col.3, line 47 to Col.4, line 4).

In contrast to claims 1 and 7, neither Ramey nor Ochi individually or in combination disclose or suggest an IC package or providing an IC package having multiple leads extending away from said IC package such that a portion of said multiple leads is not in contact with said IC package.

It is respectfully submitted that Ramey does not disclose or suggest a combination with Ochi. Furthermore, Ochi does not disclose or suggest a

combination with Ramey. It would be impermissible hindsight based on applicants' own disclosure to incorporate Ramey with Ochi.

Because claims 5-6 and 11-12 depend on claims 1 and 7, respectively, applicants submit that claims 5-6 and 11-12 are not obvious over Ramey for the above reasons. Therefore, claims 5-6 and 11-12 are patentable over Ramey in view of Ochi.

It is respectfully submitted that in view of the amendments and arguments set forth herein, the applicable rejections have been overcome. Accordingly, applicants respectfully request that claims 1-14 be found in condition of allowance.

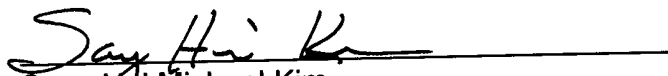
If the Examiner believes a telephone interview would expedite the prosecution of this application, the Examiner is invited to contact Mike Kim at (408) 720-8300 x345.

If there are any additional charges, please charge Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN

Dated: May 17, 2000


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